

## Epoxy Technology EPO-TEK® E2116 Electrically Conductive, Silver Epoxy

Category : Polymer , Thermoset , Epoxy , Epoxy , Electrically Conductive

### Material Notes:

**Product Description:** EPO-TEK® E2116 is a two component, silver-filled and stencil printable electrically conductive adhesive for bonding SMDs onto PCB and substrates. Can be used as a "lead-free" alternative in circuit assembly applications found in semiconductor, medical, consumer and hybrid/military industries. **Advantages & Application Notes:** The thixotropic and paste-like rheology allows for application by screen or stencil printing techniques. It was designed to be printed for SMT joining similar to printing solder paste. It may also be hand applied or dispensed. A "lead-free" solution for PCB level circuit assemblies. It is suggested to use this epoxy with SMDs that do not contain Pb plated leads. Preferable to solder: Lead-free can be an environmental advantage. Silver epoxy curing at 150°C is a lower temperature solution than 180-220°C SMT solder reflow. Electrically conductive adhesives can be used on flip chips and ultra-fine pitch count SMDs, avoiding the problems of solder bridging. NASA approved low outgassing epoxy. Can be used on mixed technology hybrid substrates or PCBs. Adhesive deposit, pick-and-place, and cure can be accomplished in single step fashion. Alternate versions are available - contact techserv@epotek.com for best recommendation. Suggested surface finishes, contact pads, or leads: Ag, Ag-Pd, Au, and Cu. Compatible with PCBs including FR4, BT, ceramic, and flex circuits. Information Provided by Epoxy Technology

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Epoxy-Technology-EPO-TEK-E2116-Electrically-Conductive-Silver-Epoxy.php](http://www.lookpolymers.com/polymer_Epoxy-Technology-EPO-TEK-E2116-Electrically-Conductive-Silver-Epoxy.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.04 g/cc	1.04 g/cc	Part B
	2.95 g/cc	2.95 g/cc	Part A
Particle Size	<= 20 µm	<= 20 µm	
Viscosity	65000 - 90000 cP	65000 - 90000 cP	1 rpm
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	
Tensile Modulus	3.83 GPa	556 ksi	Storage
Shear Strength	11.4 MPa	1650 psi	Lap
	>= 23.4 MPa	>= 3400 psi	Die

Thermal Properties	Metric	English	Comments
CTE, linear	43.0 µm/m-°C	23.9 µin/in-°F	Below Tg
	142 µm/m-°C	78.9 µin/in-°F	Above Tg
Thermal Conductivity	1.19 W/m-K	8.26 BTU-in/hr-ft²-°F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	300 °C	572 °F	Intermittent
Minimum Service Temperature, Air	-55.0 °C	-67.0 °F	Continuous
	-55.0 °C	-67.0 °F	Intermittent
Glass Transition Temp, Tg	>= 100 °C	>= 212 °F	Dynamic Cure 20–200°C /ISO 25 Min; Ramp -10–200°C @ 20°C/Min
Decomposition Temperature	405 °C	761 °F	Degradation Temperature; TGA

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 0.00050 ohm-cm	<= 0.00050 ohm-cm	

Chemical Properties	Metric	English	Comments
Ionic Impurities - Cl (Chloride)	153 ppm	153 ppm	

Processing Properties	Metric	English	Comments
Cure Time	15.0 min @Temperature 150 °C	0.250 hour @Temperature 302 °F	Minimum Bond Line
Pot Life	360 min	360 min	
Shelf Life	6.00 Month @Temperature 25.0 °C	6.00 Month @Temperature 77.0 °F	

Descriptive Properties	Value	Comments
Color	Amber	Part B
	Silver	Part A
Consistency	Viscous Paste	
Ionic Impurities NH4	107 ppm	
Mix Ratio By Weight	100:3	
Number of Components	Two	
Weight Loss	0.66%	300°C

**Contact Songhan Plastic Technology Co.,Ltd.**

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